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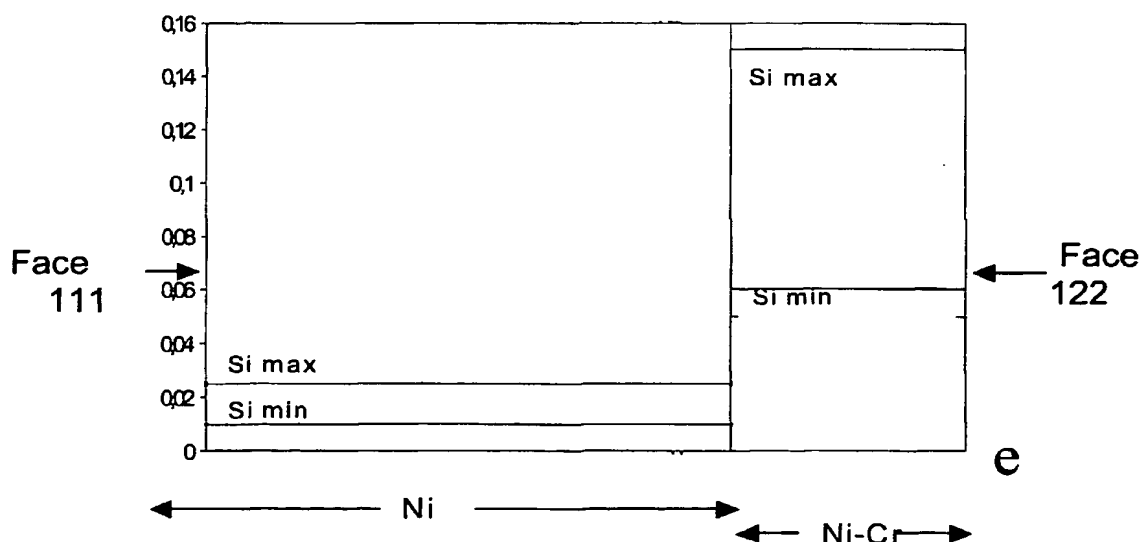
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(54) Title: OXIDE CATHODE FOR ELECTRON GUN WITH A DIFFERENTIALLY DOPED METALLIC SUBSTRATE.



(57) Abstract: The metallic substrate of this cathode has a thickness $\leq 100 \mu\text{m}$ and contains a plurality of reducing agents as Si or Al and - on the top face 111, $0.005 \% < \text{Mg} \leq 0.1 \%$, Si or $\text{Al} \leq 0.025 \%$, and $\text{W} \leq 3 \%$ - on the bottom face 122, Mg weight concentration is inferior to the Mg weight concentration on the top face, and Si or Al weight concentration is superior to Si or Al weight concentration on the top face and superior to 0.02 %. Lifetime is maximized and turn-on-time is minimized.

WO 2004/012217 A1